



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/617,614

07/11/2003

Viacheslav Ivanovych Adamchuk

16363-US

2903

7590

09/02/2004

Williams M. Dixon
Patent Department
DEERE & COMPANY
One John Deere Place
Moline, IL 61265-8098

EXAMINER

DAVIS, OCTAVIA L

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 09/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/617,614

Applicant(s)

ADAMCHUK ET AL.

Examiner

Octavia Davis

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/11/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bachhuber et al.

Regarding claims 1 and 7, Bachhuber et al disclose an apparatus and method for determining the strength and type of soil comprising a soil engaging implement 10, load cells 20, 38 mounted to the soil engaging implement and strain gauges 22 mounted to the soil engaging implement are used to measure the forces experienced by a boring portion 12 of the implement (See Col. 3, lines 29 - 67).

Regarding claim 4, each set of strain gauges 22 is a bridge type configuration (See Fig. 3).

Regarding claim 5, the strain gauges 22 are mounted to the soil engaging implement at different depths (See Col. 3, lines 49 – 56).

Regarding claim 6, the load cells 20, 38 are used to determine a linear trend of topsoil resistance pressure change with depth as the soil engaging implement is drawn through the soil (See Col. 3, lines 57 – 60 and Col. 4, lines 3 – 16 and 30 – 53).

Regarding claims 8 and 9, a recording means 18 receives and records the measurements determined by the computer means 46, 48 corresponding to the multiple

Art Unit: 2855

and multidirectional forces being exerted on the boring portion and calculates the average force as a function of time (See Col. 4, lines 9 – 10 and 65 – 67 and Col. 5, lines 1 – 3).

Regarding claims 10 and 11, an additional computing means 46 is programmed to compare the force data with loading characteristics of known soil types to determine the types and thicknesses of the soil layers encountered by the implement 10 during a testing process (See Col. 5, lines 29 – 41).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bachhuber et al in view of Wattonville et al.

Regarding claim 2, Bachhuber et al disclose all the limitations of these claims except for a teaching that the soil engaging implement has an upper end mounted to a support structure, a lower end, a point for engaging the soil mounted to the lower end, a leading edge, and a protective shin mounted to the leading edge. However, Wattonville et al disclose a wear shin for a shank of a tillage tool comprising an upper end 234, a lower end 242, 286, a point 240, a leading edge 252 and a protective shin 250 (See Figs. 5 and 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bachhuber et al according to the teachings of

Art Unit: 2855

Wattonville et al for the purpose of, providing an improved wear shin for a tillage implement that has better trash and soil flow characteristics (See Wattonville et al, Col. 1, lines 63 – 67).

Allowable Subject Matter

5. Claim 3 is allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Riley (4,579,003) teaches an instrument for testing earthen samples under triaxial load conditions.

Raper et al (6,647,799) teach soil strength measurement.

Ali (4,554,819) teaches a method and apparatus for measuring the subsurface bearing strength of soil.

Duello (6,389,999) teaches a surface engaging implement.

He (6,217,260) teaches a downhole reamer with double dual piston cylinder.

7. Any inquiry concerning this communication should be directed to examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 – 9306.

Art Unit: 2855



OD/2855

8/18/04



EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800